EXHIBIT A

Project No. 142-4513
Book No. 14614 TITLE APPL Trial 76 Verify Conditions for Acumer 9932 to Meet CS-10 Target 5K with Post-Treatment to Target NGCF Hunter L + b

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APPL Trial T-76

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Project Number: 00050 W532 615 874 731 142-4513

Objectives:

- Verify that 4.0% Acumer 9932 with 0.70% SHP cross-linking at 380°F will meet CS-10 target 5K.
- Determine the alkaline hydrogen peroxide post-treatment requirements (0 to 5 lbs/ADMT) to attain target NGCF Hunter L and b.
- Work Safely (See Safety Section)

Safety:

- Review MSDS's for all chemicals.
- Use proper personnel protective gear when handling the 50% hydrogen peroxide solution – goggles, face shield and rubber gloves. Other staff are to remain clear of this working area.
- Handle post-treatment solutions with care - prior to hydrogen peroxide addition, pH will be greater than 11.
- Use normal safety precautions related to working around the APPL area during its operation.

Run Conditions:

Pulp	CF416
Pulp Linear Feed rate	60 fpm
Cross-linking chemistry	Acumer 9932
Impregnation Solution Concentration	7.2% solids
Impregnation Solution pH	**Adjust to pH of 2-2.1**
Target Hammermill Feed Consistency	61%
Target Chemical on ODCF Pulp	4.0% 9932 and 0.70% SHP (all as 100% Purity)
Impregnation Solution Rotameter Setting	41.8% of scale reading
Nominal Cure Temperature	380 °F
Nominal Cure Time	8 minutes
Target Product Moisture	6%
Remoisturization Rotameter Setting	60% of scale reading (Water Pressure – 20 psi with air pressure adjusted to achieve this setting, approximately 28 psi.)
Remoisturization Solutions	See Run Matrix – Post-treatment

Remoisturization Solutions Composition					
Run	Target		Post Treatment Solution Make-up		
ID	H_2O_2	NaOH	Water	NaOH	50 % H_2O_2 Solution
	lbs/ADMT	lbs/ADMT	Lbs	grams	mls
A	0	0	17.0	0.0	0.0
B	1	0	16.7	0.0	101.9
C	2	0	16.5	0.0	202.2
D	5	0	15.7	0.0	494.1
E	0	2	16.7	120.1	0.0
F	1	2	16.5	119.2	100.3
G	2	2	16.2	118.3	199.1
H	5	2	15.5	115.6	486.7

Add the peroxide to the water/NaOH solution just prior to dumping into the remoisturization tank to keep the peroxide as active as possible.

Samples:

Pulp Feed Rolls: 2 sample per roll (lead and tail)
Hammermill Feed: 3 samples per run condition
Baler Feed: 5 samples at steady state operation at least 2 minutes apart for each condition
In addition to the material bagged for analysis, collect and bag at least 2 kg of material at each condition for later customer samples.

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Read & Understood by me, Date
Invented by
Recorded by Kathy Welch
Date [redacted]

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